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August 14, 1998

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Via HAND DELIVERY

Ms. Magalie R. Salas  
Secretary  
Federal Communications Commission  
1919 M Street, N.W.  
Washington, D.C. 20554

RE: **The Matter of Implementation of Section 255 of the  
Telecommunications Act of 1996, Access to Telecommunications  
Services, Telecommunications Equipment, and Customer Premises  
Equipment by Persons with Disabilities, W.T. Docket No. 96-198.**

Dear Ms. Salas:

Enclosed please find for filing on behalf of Motorola, Inc., an original and nine copies of Motorola's Reply Comments in the above-referenced proceeding.

Also enclosed is an additional copy of the Comments, which we ask you to date stamp and return with our messenger.

Respectfully submitted,

*Karen Lloyd*

Karen Lloyd

Enclosures

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Before The

**FEDERAL COMMUNICATIONS COMMISSION**

Washington, D.C.

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AUG 14 1998

In the Matter of

Implementation of Section 255 of the  
Telecommunications Act of 1996

Access to Telecommunications Services,  
Telecommunications Equipment, and  
Customer Premises Equipment  
By Persons with Disabilities

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

WT Docket No. 96-198

**REPLY COMMENTS OF MOTOROLA, INC.**

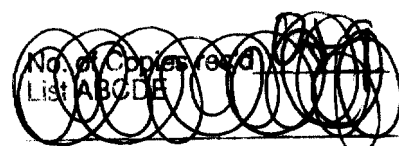
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*Its Attorneys*

Dated: August 14, 1998



## EXECUTIVE SUMMARY

Motorola, Inc. is committed to the goal of increased access to telecommunications products and services for persons with disabilities. In particular, Motorola is committed to increasing meaningful access for a wide group of individuals with varied functional limitations. To best achieve these goals, Motorola advocates an incentive-based regulatory scheme that allows manufacturers discretion in complying with Section 255 through a product-line approach to the accessibility requirement. Manufacturers must be given this discretion in incorporating accessibility features into their products so consumers may realize the full benefits of creative technical innovation.

Motorola also asks the FCC, in adopting a regulatory scheme, to modify the definitions of certain key statutory terms taken from the ADA to the telecommunications context. First, with respect to the definition of "readily achievable," Motorola suggests that the FCC consider three factors: (1) technical feasibility, (2) cumulative cost, and (3) fundamental alteration. Second, Motorola urges the FCC to revise its definition of accessibility, which, as currently proposed, requires an independent assessment of the accessibility of each product to each of the functional limitations identified in the Access Board's 18 point checklist. Instead, the definition should allow for a product-line approach. Motorola additionally asks the FCC to clarify that "multi-use" equipment is subject to Section 255 only if such equipment is intended for use with telecommunications services.

Finally, Motorola supports the FCC's proposal to use the Access Board's guidelines as a starting point for Section 255 implementation, but also to conduct on its own a substantive review and revision before issuing a final rule.

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**Before The**  
**FEDERAL COMMUNICATIONS COMMISSION**  
**Washington, D.C.**

In the Matter of	)	
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Implementation of Section 255 of the	)	
Telecommunications Act of 1996	)	
	)	WT Docket No. 96-198
Access to Telecommunications Services,	)	
Telecommunications Equipment, and	)	
Customer Premises Equipment	)	
By Persons with Disabilities	)	

**REPLY COMMENTS OF MOTOROLA, INC.**

**I. INTRODUCTION**

As the largest domestic manufacturer of wireless customer premises equipment ("CPE") and a manufacturer of telecommunications equipment, "Motorola is committed to providing quality products and services to all of our customers – including our customers with disabilities. We want to take a leadership role in the creative development of new products which will meet the needs of people with disabilities, and at the same time make our products easier to use by everyone."<sup>1</sup>

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<sup>1</sup> Robert Growney, Chief Operating Officer of Motorola.

In its initial comments, Motorola demonstrated that this commitment to increased accessibility is not an empty promise, but a priority that is already being actively implemented. Through the design of increasingly accessible products that are easier for all consumers to use; employee training initiatives; the inclusion of persons with disabilities in product testing and market research; and efforts to increase the usability of our products by providing customer service and product literature in accessible formats; Motorola has already begun the process of increasing accessibility. Based on our experience with these initiatives, Motorola submits Reply Comments with recommendations that will promote continued innovation and ensure efficiency, which, in turn, will result in increased availability in the marketplace of CPE that is accessible to and usable by a broad range of consumers.

Motorola's overarching message in these Reply Comments remains the same: Results-oriented incentives – combined with the freedom to attain such results in innovative ways – drive the telecommunications market, thereby increasing the number of telecommunications products and services accessible to persons with disabilities. In contrast, detailed, product-by-product process regulation will discourage the very innovation needed to achieve Congress' goal of increasing the number of Americans with a range of disabilities who can access telecommunications and the ease of access which people will encounter.

Consistent with this message, Motorola endorses the Reply Comments submitted by the Telecommunications Industry Association ("TIA").

In addition, Motorola submits its own Reply Comments on the following five issues. Section II demonstrates that a product line approach to compliance addresses many of the concerns raised by persons with disabilities in the record by: (a) permitting flexibility that will ultimately result in more meaningful levels of access to CPE; (b) ensuring that a range of

functional limitations are considered and accommodated, if “readily achievable;” and (c) reducing the importance of market considerations in determining what is “readily achievable.” Section III provides additional comment on how the FCC should interpret the “readily achievable” standard that defines the scope of manufacturers’ obligations under Section 255. Section IV advocates revision of the definition of the “accessible” CPE that manufacturers are required to make. Section V urges the FCC to conclude that “multi-use” equipment should be subject to Section 255 only if it is intended for use with telecommunications services. Finally, in Section VI Motorola endorses the FCC’s decision to conduct a substantive review and revision of the guidelines adopted by the Architectural and Transportation Barriers Compliance Board (“Access Board”).

## **II. THE MOST EFFECTIVE STRATEGY FOR INCREASING ACCESSIBILITY AND HOLDING MANUFACTURERS ACCOUNTABLE FOR ACCOMMODATING THE DIFFERENT FUNCTIONAL LIMITATIONS IS A PRODUCT-LINE APPROACH.**

As Motorola indicated in its initial comments, the most important issue that the FCC will resolve in this proceeding is whether the Section 255 “readily achievable” analysis applies to each piece of CPE or instead to lines of products with similar functions, features and price. In Motorola’s view, the comments submitted in response to the NPRM demonstrate that a product-line approach is the most effective strategy for increasing accessibility given the limits of the “readily achievable” standard and the complexity of meeting the access needs generated by different functional limitations. Motorola wishes to address two specific advantages of the greater flexibility provided by the product-line approach: (A) the freedom to provide more meaningful levels of access for specific functional limitations in targeted products; and (B)



greater accountability for manufacturers in meeting the access needs generated by a range of different disabilities. Finally, a product-line approach may minimize the importance of market considerations in determining what is "readily achievable," an issue which caused some commentators representing persons with disabilities significant concern.

**A. A Product-Line Approach Permits Manufacturers to Provide Greater Depth of Access for a Particular Disability Within the Limits of What is "Readily Achievable."**

The FCC should endorse a product-line approach to compliance "up front" to ensure that the resources manufacturers dedicate to providing accessibility are utilized as effectively as possible to provide meaningful, rather than superficial, levels of access for persons with a variety of functional limitations and access needs.

Under Section 255, manufacturers must provide telecommunications equipment and CPE that are accessible, or alternatively, compatible, "if readily achievable." As defined by Congress, the efforts that manufacturers must take to comply with Section 255 are limited to those that can be accomplished "without much difficulty or expense."<sup>2</sup>

As Motorola's initial comments pointed out, providing access for a single disability in a given product is extremely complex. It is even more complex to accommodate multiple functional limitations in a single CPE product.<sup>3</sup> Providing meaningful accessibility is not simply a matter of "tweaking" a few product functions, but rather, entails an extensive review and, perhaps, modification of dozens of product inputs, outputs, controls, and functions

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<sup>2</sup> 42 U.S.C. § 12181(9).

<sup>3</sup> As Motorola has emphasized throughout this proceeding, ADA precedent and the language of Section 255 itself dictate that the FCC consider the cumulative cost of access features to accommodate different disabilities in determining what is "readily achievable" and therefore required for compliance. DOJ Preamble, 28 C.F.R. Part 36, App. B.

even for the simplest products. As the comments submitted by disability organizations demonstrated, the kinds of modifications needed to provide access are significant – visual displays, voice outputs, and enhanced audio, to name a few. Because meaningful accessibility typically requires modification or inclusion of multiple product features, access for even a single disability has complicated impacts upon key elements of a product design, including, size, cost, memory, battery life, part count, and quality.

Motorola demonstrated, through its matrix entitled “Examples of Access Features and Impact on Product Drivers,” the special complexities associated with incorporating accessibility features into telecommunications products.<sup>4</sup> Because manufacturers frequently will not be able to accomplish meaningful gains in accessibility for more than one functional limitation in a given product within the limits of what is “readily achievable,”<sup>5</sup> product differentiation is the optimum strategy for providing meaningful accessibility for a range of disabilities.

Taken together, the FCC’s proposed product-by-product approach to compliance and definition of “accessible” discourage, rather than encourage, the product differentiation that

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<sup>4</sup> Motorola Comments at 28-29.

<sup>5</sup> Several commentors suggested that the FCC should not consider the accessibility of other comparable products within a product line unless the manufacturer first establishes that it was not “readily achievable” to make the individual product complained of accessible. See American Council of the Blind (“ACB”) Comments at 4; Telecommunications for the Deaf (“TDI”) Comments at 7; World Institute on Disability (“WID”) Comments at 4. This suggestion is misplaced. If the FCC adopts the product-by-product approach advocated by some disability advocates, once a manufacturer establishes that it was not readily achievable to make the individual product accessible -- the manufacturer has met its statutory obligation -- access is not required. There would not be any secondary inquiry into the accessibility provided in the manufacturer’s product line.

is critical to providing meaningful levels of access in products that are helpful and desirable to persons with disabilities.

Rather than promoting product differentiation as the preferred strategy for increasing depth of access, the FCC proposes to adopt the Access Board's definition of "accessible."<sup>6</sup> Under the definition, a manufacturer would be required to make product inputs, outputs, displays, mechanical and control functions accessible to persons with a variety of functional limitations and combinations of functional limitations.<sup>7</sup> As proposed in the NPRM, each of the 18 items on the accessibility checklist is mandatory, requiring a manufacturer to perform an independent "readily achievable" calculus for each item on each product.<sup>8</sup> In Motorola's view, use of this proposed definition of "accessible" encourages a "cover as many bases as possible" approach to compliance, where depth of meaningful access for persons with disabilities will be sacrificed, or alternatively, an approach to compliance which favors features for limitations more common in the population at the expense of features for others. Either way, faced with the prospect of complaints about every product to every disability, manufacturers will

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<sup>6</sup> See NPRM ¶ 170 (referring to "the ideal of full accessibility" that "is generally limited by feasibility, expense, or practicality").

<sup>7</sup> Access Board Guidelines §§ 1193.41, 1193.43. The FCC proposes to adopt the Access Board's definition of "accessibility," which comprises an 18 point checklist of accessible product functions which must be assessed independently. The independent assessment is whether each of the 18 criteria is "readily achievable" and therefore required under Section 255. In reality, the Access Board's checklist contains more than 18 criteria: for example, in addition to the 18 criteria listed, the Access Board included a requirement that "[t]elecommunications equipment and customer premises equipment . . . pass through cross manufacturer, non-proprietary, industry-standard codes, translation protocols, formats or other information necessary to provide telecommunications in an accessible format." See NPRM ¶ 75; NPRM App. C at C5. Thus, the 18 point checklist could actually be considered "18 point-plus." For purposes of this document, reference to the "18 point checklist" includes the 18 points adopted by the Access Board plus the others described above.

<sup>8</sup> See NPRM ¶ 75 (requesting comment on this proposal).

(Continued ...)

attempt to address as many items on the checklist as possible with the “readily achievable” resources available to provide access. The result will be “universal” inclusion of several relatively inexpensive features that in all likelihood, will result in only minor increases in the accessibility of the product to persons with disabilities. This would be a public policy failure in meeting Congress’ goal of increased access to telecommunications services by persons with disabilities.

As an alternative, a product-line approach to compliance permits manufacturers to coordinate accessibility assessment of product inputs and outputs so that “readily achievable” resources are focused appropriately on particular products.<sup>9</sup> The gain will be greater overall accessibility for persons with a particular functional limitation. A product-line approach would permit manufacturers to focus “readily achievable” resources to provide a deeper and more meaningful level of access for particular disabilities, to the extent “readily achievable,” in specific products within a product line.

Moreover, as Motorola’s initial comments demonstrated, the different functional limitations lend themselves to particular kinds of products that will be preferable to persons with that disability. Given the choice between a larger, more expensive pager that has both text and audio output, a person with a hearing disability, for example, is likely to prefer the smaller, less expensive two-way text pager that is sufficient to meet his access needs. By requiring compliance efforts that will not result in more accessible products that persons with specific disabilities can actually use or would want, the FCC’s proposed product-by-product regime will

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<sup>9</sup> In contrast, the FCC’s proposed definition of accessibility requires manufacturers to assess, and, if readily achievable, to implement access features that make product inputs  
(Continued ...)

result in a waste of the resources available to increase accessibility and thereby undermine the goals of Section 255. For these reasons, Motorola recommends that the FCC encourage product differentiation as a compliance strategy to ensure that there is a product of comparable function, feature and price to meet the needs and preferences of every person, including persons with disabilities.

**B. A Product-Line Approach Will Increase Manufacturer Accountability For Providing Products That Are Accessible For A Broad Range Of Functional Limitations.**

In comparison to the FCC's proposal, the product-line approach advocated by manufacturers would result in greater accountability to ensure that manufacturers are making products that satisfy a broad range of disabilities. As the comments submitted by disability organizations demonstrate, conflicting needs generated by different disabilities mean that it is not technically feasible, and therefore, not "readily achievable" to make every product accessible to every person.<sup>10</sup> A product-by-product approach to compliance is not conducive to a "big picture" assessment of whether a range of functional limitations is being accommodated by a manufacturer. While the FCC has indicated that it will not permit manufacturers systematically to overlook different disabilities, there is no vehicle for policing compliance under a product-by-product approach. In contrast, a product-line approach creates incentives for manufacturers to ensure that the range of sometimes conflicting access needs is met, because a manufacturer who

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accessible, without any consideration for whether the product outputs can be made accessible to the same disability.

<sup>10</sup> See, e.g., Advocacy Awareness Access/Disabled Resource Services Comments (noting need for tactile marks on knobs, buttons and switches, as well as audio output, for persons with visual disabilities); Malisa W. Janes Rh.D. Comments (suggesting all fax machines incorporate a red light to show a dial tone, for people with hearing disabilities); David E. Nelson Comments (noting need for TTY/ASCII standard known as V.18 to be incorporated into modems).

has not provided access for a given disability will be required to justify this choice across an entire product line, rather than for a single product. Since it will be more difficult for manufacturers to justify failures to act on a product-line basis, the product-line approach encourages manufacturers to meet as many types of access needs as is "readily achievable."

**C. A Product-Line Approach Is Likely To Reduce The Significance Of Market Considerations In Determining What Is "Readily Achievable."**

While some disability groups have concerns with a product-line approach, a product-line approach would go a long way to addressing another concern expressed by many disability advocates -- that consideration of market factors in determining what is "readily achievable" will drastically reduce or eliminate the efforts to achieve access that manufacturers are required to undertake.<sup>11</sup> While Motorola believes that market considerations have a legitimate role in the determination of what is "readily achievable," a product-line approach is likely to minimize the importance of such considerations.

In Motorola's view, the concept of marketability is closely intertwined with the concepts of cumulative cost and fundamental alteration, which Motorola believes should be recognized as factors. If a product becomes too costly because of the inclusion of access features, it may not be marketable. Similarly, the inclusion of certain features which promote access could fundamentally alter the nature of a product so that it would no longer meet the needs of the market segment that it was designed to serve.

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<sup>11</sup> See, e.g., ACB Comments at 4; Advocacy Center Comments at 2; Governor's Council on Disability Comments at 1; Self Help for Hard of Hearing People ("SHHH") at 16; TDI at 16-21.

Rather than “creating a loophole for evading Section 255 obligations,”<sup>12</sup> a product line approach is likely to make it more difficult for a manufacturer to establish that it was not “readily achievable” to incorporate a particular feature or features which optimize access for a functional limitation anywhere in its product line because of marketability reasons related to cost or fundamental alteration.<sup>13</sup> If the FCC focuses on the overall market for a family of products, such as two-way pagers, it is far more likely to find that some segment of that market would pay more money, or sacrifice some other product feature for an enhanced visual display, for example, than if it focuses on the target market for an individual pager. In this example, the FCC would be more likely to find that providing the access feature or features was “readily achievable” under a product-line analysis than it would under a product-by-product approach.

**III. THE FCC SHOULD ADAPT THE SECTION 255 DEFINITION OF “READILY ACHIEVABLE” TO THE TELECOMMUNICATIONS CONTEXT BY FOCUSING ON THE CONCEPTS OF TECHNICAL FEASIBILITY, CUMULATIVE COST, AND FUNDAMENTAL ALTERATION.**

**A. “Readily Achievable” Factors**

Like the majority of commentors,<sup>14</sup> Motorola agrees with the FCC that the “readily achievable” standard, which defines the scope of manufacturers’ compliance obligations under Section 255, should be applied in a manner that is: (a) consistent with ADA precedent; and

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<sup>12</sup> NPRM ¶ 170.

<sup>13</sup> In this respect, the product line approach may strike a more appropriate balance between the understandable concerns expressed by disability advocates that Section 255 not be interpreted in a way that requires access to generate economic benefits, such as cost recovery, and manufacturers’ equally legitimate concern that Section 255 not be implemented in a way that forces them to make products that are unmarketable and unprofitable.

<sup>14</sup> See, e.g., National Association of the Deaf (“NAD”) Comments at 20-21; TDI Comments at 16-21.

(b) adapted to the unique context of telecommunications.<sup>15</sup> As indicated in Motorola's initial comments, these governing principles weigh in favor of the FCC expressly recognizing the following three factors as relevant to the determination of what is "readily achievable" and therefore required by Section 255: (1) technical feasibility, (2) cumulative cost, and (3) fundamental alteration. The first factor, technical feasibility, was supported by the vast majority of commentors;<sup>16</sup> the second and third, supported by many industry commentors,<sup>17</sup> are well-grounded upon ADA precedent and should be applied in the Section 255 context as well.

**1. Most Commentors Agreed With The FCC That Technical Feasibility Is An Appropriate Factor In The "Readily Achievable" Determination.**

The FCC in its NPRM recognized the importance of technical feasibility in the "readily achievable" analysis.<sup>18</sup> This factor is the practical application of "achievability" in the context of telecommunications. Therefore, Motorola was not surprised to observe that, among commentors that addressed the issue, there was consensus that technical feasibility be considered. The FCC should thus maintain its emphasis on technical feasibility as part of the "readily achievable" determination.

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<sup>15</sup> NPRM ¶ 99.

<sup>16</sup> See, e.g., GTE Comments at 6; NAD Comments at 21; SHHH Comments at 15; WID Comments at 5.

<sup>17</sup> See, e.g., Information Technology Industry Council (ITI") Comments at 30; Nextel Comments at 3.

<sup>18</sup> NPRM ¶¶ 101-102.



**2. The FCC Should Recognize That Consideration Of The Cumulative Cost Of Accessibility Features Is An Appropriate And Necessary Part Of The "Readily Achievable" Determination.**

As Motorola pointed out in its opening comments, ADA precedent requires the FCC to acknowledge and consider the cumulative cost of accessibility features in determining what is "readily achievable" and therefore required by Section 255. The Department of Justice, in the ADA context related to removal of barriers in public accommodations, concluded that it is "appropriate to consider the cost of other barrier removal actions as one factor in determining whether a measure is readily achievable."<sup>19</sup>

Based upon ADA precedent, the FCC cannot require manufacturers to assess the cost of accessibility features independently,<sup>20</sup> as opposed to cumulatively, without imposing greater burdens upon manufacturers than Section 255 permits. A manufacturer that is not permitted to take into account the cumulative cost and impact of all accessibility features in one of its products could potentially be required to incorporate many more features than is "readily achievable" and therefore required under Section 255. For example, incorporation of an *individual* feature may be easily accomplishable "without much difficulty or expense,"<sup>21</sup> however, *combining a number of features* into the one product could prove very costly. As Motorola's "Examples of Access Features and Impact on Product Drivers" matrix included in its initial comments demonstrates,<sup>22</sup> the cumulative costs that must be considered include not only

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<sup>19</sup> DOJ Preamble, 28 C.F.R. Part 36, App. B (commenting on § 36.104).

<sup>20</sup> For this reason, the proposed definition of "accessible," 36 C.F.R. §§ 1139.41, 1139.43, is inconsistent with and imposes burdens on manufacturers that exceed the "readily achievable" limitation upon what is required for compliance set by Congress.

<sup>21</sup> 42 U.S.C. § 12181(9).

<sup>22</sup> Motorola Comments at 28-29.

the costs of the features which promote access themselves, but also the related costs, for example, additional memory or power capacity, required to support those features. Motorola therefore asks the FCC to recognize that the consideration of costs includes the cumulative cost and impact of all accessibility features incorporated into any one product.

**3. The FCC Should Recognize The Concept Of Fundamental Alteration As A Limitation On Manufacturers' Obligations To Incorporate Accessibility Features.**

Just as Motorola urges the FCC to recognize cumulative costs in determining what is "readily achievable," so too Motorola urges the FCC expressly to recognize the cumulative impacts that features for access can have upon fundamental product characteristics. Based upon ADA precedent,<sup>23</sup> the FCC should explicitly recognize that the "readily achievable" standard applied to Section 255 does not require "fundamental alteration" of products. Motorola recommends that the FCC adopt the view that fundamental alteration is not required for compliance.<sup>24</sup>

The concept of fundamental alteration recognizes that manufacturers are not required to change the core features, functions and price of a product in order to provide accessibility. Such a limitation is necessary to permit manufacturers to balance the needs of all customers, disabled and non-disabled alike. The fundamental alteration concept recognizes that certain products are designed to meet the needs and desires of certain segments of the population.

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<sup>23</sup> 28 C.F.R. Part 36, App. B (commenting on § 36.104).

<sup>24</sup> This approach is consistent with the Access Board's guidelines which recognized that fundamental alteration is not required for compliance. Advisory Guidance, Subpart A, ¶ 3(d), Appendix to 36 C.F.R. Part 1193 (comment 3 on the definition of readily achievable).

For example, certain consumers, disabled or non-disabled, may want or need the smallest wireless handset that it is technically possible to make. Manufacturers should not be required to incorporate accessibility features that would make this product larger and therefore unsuitable for the target market that it was designed to serve. Instead, a manufacturer should incorporate such access features into another product, whose fundamental characteristic will not be altered by these additions, to the extent “readily achievable.”

**B. The FCC Should Adhere To Its Tentative Conclusion Not To Require Retrofitting Of Access Features After A Product Has Been Introduced Into the Market.**

- 1. In order to maximize the impact of resources available to provide access, the FCC should not require manufacturers to incorporate subsequent “readily available” access features into products that have already been introduced to the market.**

Motorola supports the FCC’s tentative conclusion that “once a product is introduced in the market without features that were not “readily achievable” at the time, Section 255 does not require that the product be modified to incorporate subsequent, “readily achievable” access features.”<sup>25</sup> The FCC should adopt this proposal in its final rules because it ensures that the resources available to provide access within the limits of the “readily achievable” standard will be spent as efficiently as possible, thereby maximizing the potential to realize concrete gains in accessibility.

As the TAAC,<sup>26</sup> the Access Board,<sup>27</sup> the FCC,<sup>28</sup> and many commentators representing both the disability community<sup>29</sup> and industry<sup>30</sup> have recognized, access features can

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<sup>25</sup> NPRM ¶ 120.

<sup>26</sup> TAAC Final Report § 4.1

<sup>27</sup> Access Board Guidelines § 1193.23.

most easily and inexpensively be incorporated if considered at the outset of the product and design and development process. As a result, access features considered early in this process are more likely to be “readily achievable,” and therefore required, than those considered later (through no fault of the manufacturer). In the NPRM, the FCC correctly recognizes that what is “readily achievable” is likely to change over time as technology and understanding of access issues and solutions advance.<sup>31</sup> Where new access features become available, the FCC should, as it proposes, “take into account reasonable periods of time required to incorporate new accessibility solutions into products under development.”<sup>32</sup> What is “reasonable” depends largely upon how far along a product is in the product development process.

Motorola urges the FCC to interpret this “reasonableness” criteria in a way that does not delay product time to market. If a manufacturer cannot rely upon its design being “fixed” at some point far in advance of its introduction in the market, such delays will result. Long before a product is introduced, for example, a manufacturer must design and possibly purchase or reprogram the equipment required for the assembly line to make the product. Manufacturers devote substantial time and effort to design their assembly lines to incorporate components in the most efficient, reliable, and cost-effective manner possible. Inclusion of a

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<sup>28</sup> NPRM ¶ 120.

<sup>29</sup> See, e.g., TDI Comments at 12; Trace Research & Development Center (“Trace”) Comments at 7.

<sup>30</sup> See, e.g., Consumer Electronics Manufacturers Association (“CEMA”) Comments at 14; SBC Communications, Inc. (“SBC”) Comments at 12.

<sup>31</sup> NPRM ¶ 120.

<sup>32</sup> Id.

feature which promotes access could require significant difficulty and expense in redesigning the assembly line, which would make the feature not “readily achievable” and therefore, not required.<sup>33</sup> The FCC must be sensitive to these difficulties and expenses which increase the farther along a product is in the design and development process.

Moreover, the short product life cycle of CPE products in particular weighs in favor of the FCC adopting a predominantly forward-looking approach in assessing what is “readily achievable.” In the CPE marketplace, product life cycles are extremely short, typically averaging 12-24 months, and the trend is shortening. As a result, there will almost always be a product in the design process with additional or different features for access included, if “readily achievable.” By requiring inclusion of the feature to promote access early in the design process, the FCC will minimize the cost of including that feature and thereby, leave more of the manufacturer’s resources available for the manufacturer to incorporate other access features, if “readily achievable.”

Once a product has been introduced to market, the FCC should adopt the proposed bright-line rule that it is no longer “reasonable” to require manufacturers to consider subsequent access features that have become “readily achievable.” Any other rule would be inefficient and contrary to the goal of increased accessibility in the long run.

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<sup>33</sup> Similarly, the difficulty and expense of retooling and/or reconfiguring of an assembly line that would be required to include a new access feature in a product that is already in production would almost always exceed the “readily achievable” threshold.

**2. Similarly, the FCC should focus on forward-looking remedies instead of retrofitting of products as a penalty for noncompliance with Section 255.**

For the same reasons that the FCC should not require manufacturers to incorporate subsequent access features into products that have already been introduced to market, the FCC should not require manufacturers to retrofit products as a penalty for violations of Section 255. Motorola opposes retrofitting as a penalty because it would yield fewer gains in accessibility than forward-looking remedies. Depending on when a complaint is filed, a CPE product will frequently be out of production or near the end of its life cycle by the time that the FCC resolves a complaint. Near the end of a product life cycle, the product is not likely to be something that consumers, including persons with disabilities, want; instead, they will want newer versions of the product or entirely new products. Therefore, a manufacturer should not be required to reinitiate manufacture of the product or to extend its life cycle in order to implement a retrofit.

Most importantly, the ultimate goal of increased accessibility would be better furthered by the FCC requiring a manufacturer to incorporate additional features which promote accessibility in a future product that has not yet been released, than to require retrofitting. For the same penalty, in terms of compliance cost, the FCC could generate more access gains in the future product. Consequently, Motorola recommends that the FCC adopt an approach which imposes additional access requirements for future products where a violation has occurred, rather than requiring retrofitting.

#### **IV. THE PROPOSED SECTION 255 DEFINITION OF "ACCESSIBLE" MUST BE REVISED AS A MATTER OF BOTH LAW AND POLICY.**

As Motorola has pointed out in initial comments, the FCC's proposed definition of "accessible" for Section 255 must be revised for two reasons. First, the proposed definition must be revised in order to be consistent with the "readily achievable" limitation on manufacturers' obligations established by Congress. As currently drafted, the definition of "accessible" for Section 255 requires an independent assessment of the accessibility of each product to each of the functional limitations identified in the 18 point "checklist."<sup>34</sup> This is inconsistent with the "readily achievable" ADA standard because it precludes consideration of the cumulative costs<sup>35</sup> and impacts on fundamental product characteristics.<sup>36</sup> Second, as a matter of policy, the definition must, at a minimum, be revised to permit a coordinated assessment of overall product accessibility, both inputs and outputs, rather than to impose potentially unproductive requirements for some product features (such as inputs) to be accessible to a particular functional limitation even though other product features (such as outputs) cannot be made accessible to the same disability.

As an alternative, Motorola recommends that the FCC revise its proposed definition of "accessible" equipment and CPE in accordance with TIA's proposal, which

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<sup>34</sup> See 36 C.F.R. §§ 1193.41, 1193.43 (indicating that each item on the checklist must be "assessed independently").

<sup>35</sup> DOJ Preamble, 28 C.F.R. Part 36, App. B (commenting on § 36.104) (indicating that it is "appropriate to consider the cost of other barrier removal actions as one factor in determining whether a measure is readily achievable").

<sup>36</sup> The inclusion of features to accommodate multiple functional limitations may well have the cumulative impact of fundamentally altering the product at issue and therefore, should not be required.

eliminates both of the problems raised by the FCC's proposed definition.<sup>37</sup> As a matter of law, TIA's definition is consistent with ADA precedent, because it recognizes cumulative costs and impacts. Second, TIA's definition, as a matter of policy, recognizes that manufacturers need to exercise discretion to make a product that has coordinated (inputs and outputs) features for accessibility for a particular functional limitation, since it is not "readily achievable" for a single product to meet the needs of all functional limitations. The definition avoids the potentially unproductive requirements that could result from literal application of the FCC's proposed definition for Section 255, minimizes compliance costs that produce no gains in access, and encourages manufacturers to provide specific information about access features included in products so that persons with disabilities can identify the products that meet their access needs.

**V. "MULTI-USE" EQUIPMENT SHOULD BE SUBJECT TO SECTION 255 ONLY IF IT IS INTENDED FOR USE WITH TELECOMMUNICATIONS SERVICES.**

With regard to multi-use equipment, Motorola generally agrees with the Commission that Section 255 should apply "only to the extent the equipment serves a telecommunications function."<sup>38</sup> Equipment manufactured for non-telecommunications services or non-common carriers services does not need to be manufactured in accordance with Section 255. There are models of equipment which are designed for use with either private systems or telecommunications services. Such equipment should be fully subject to Section 255.<sup>39</sup>

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<sup>37</sup> See TIA Comments at 26-32.

<sup>38</sup> NPRM ¶ 53

<sup>39</sup> To this extent, Motorola agrees with the Information Technology Industry Council. See ITI Comments at 10.



However, as TIA correctly explains in its Comments in this proceeding, it is theoretically possible for virtually any equipment intended solely for use with a private network to be used with a telecommunications service.<sup>40</sup> If the Commission were to impose the requirements of Section 255 on all devices that could even “possibly” be connected to a telecommunications service, virtually all equipment that can transmit and receive data would be fully subject to compliance with Section 255 -- whether it was manufactured for use with non-telecommunications service or not.<sup>41</sup> This constitutes a “possibility” application standard which would exceed both the reasonable purview of the legislation and the intention of the Commission.<sup>42</sup> Motorola believes that the requirements of Section 255 should apply only to the extent the manufacturer intended the equipment to serve a telecommunications function.

TIA offered an excellent example of the inappropriateness of applying an overly inclusive Section 255 compliance standard to multi-use communications equipment: A telephone specifically designed for use with a private network may be produced with customized features not normally expected to function with the PSTN. This non-telecommunications telephone would not (and should not) be subject to Section 255. Conversion for use with the PSTN would not be “readily achievable” by the manufacturer, technically or economically. However, an errant hobbyist could conceivably fabricate an adapter that would permit the telephone to function, perhaps with only some of its intended features, with the PSTN. Under an overly broad definition of compliance, such a telephone would by definition be fully subject

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<sup>40</sup> TIA Comments at 59.

<sup>41</sup> Id. at 60.

<sup>42</sup> See id. 57-58.